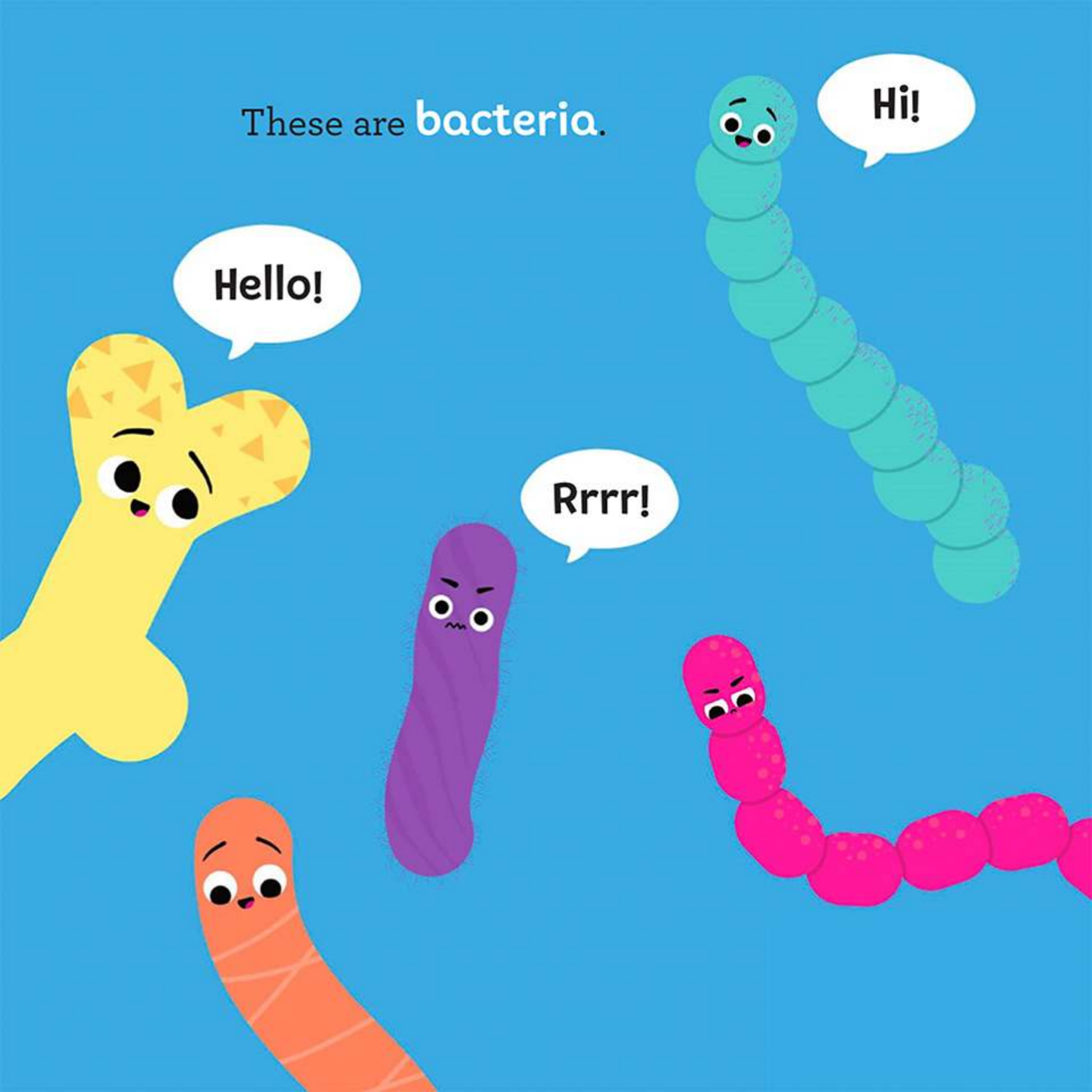
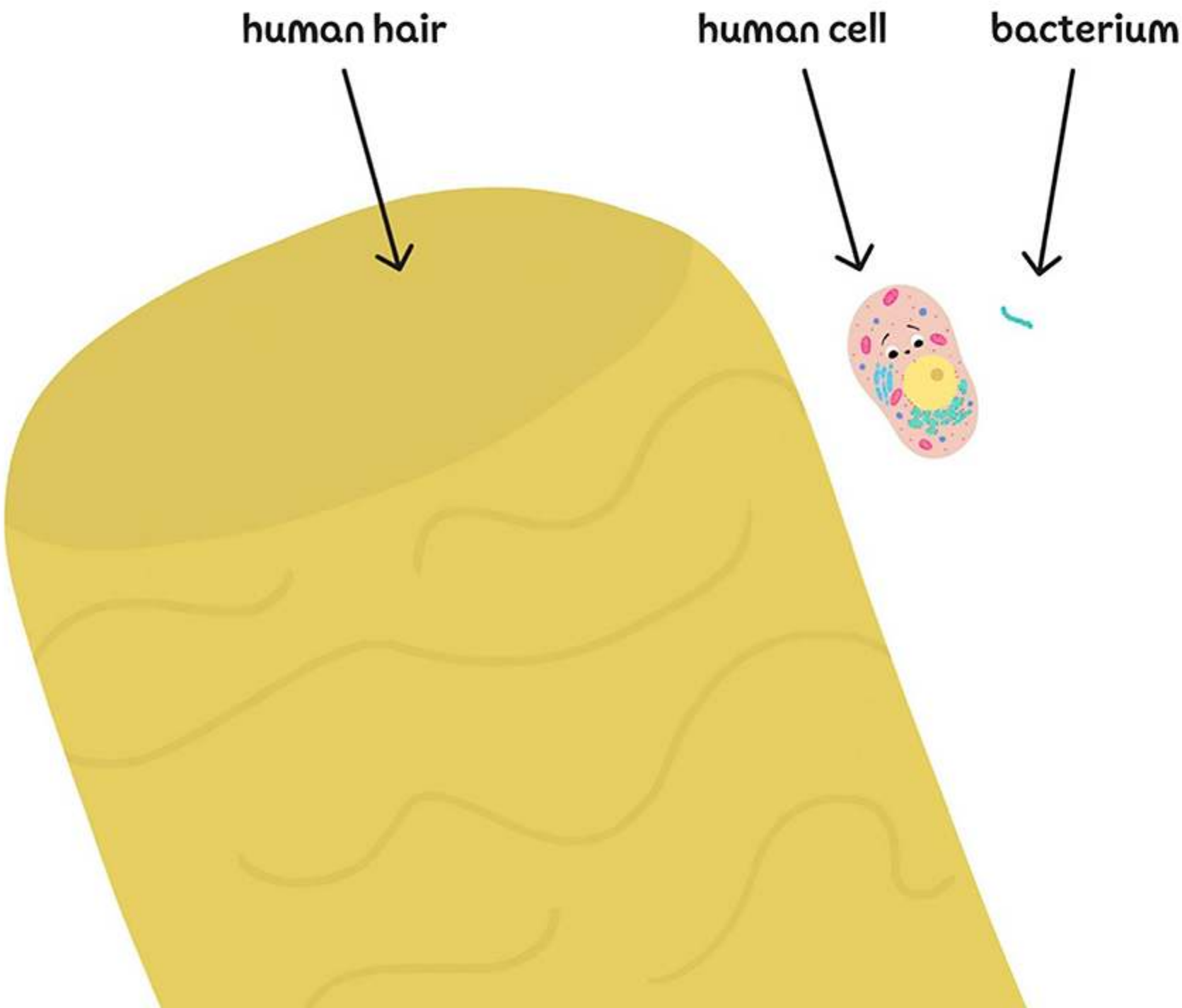
Baby Medical School

Bacteria and Antibiotics

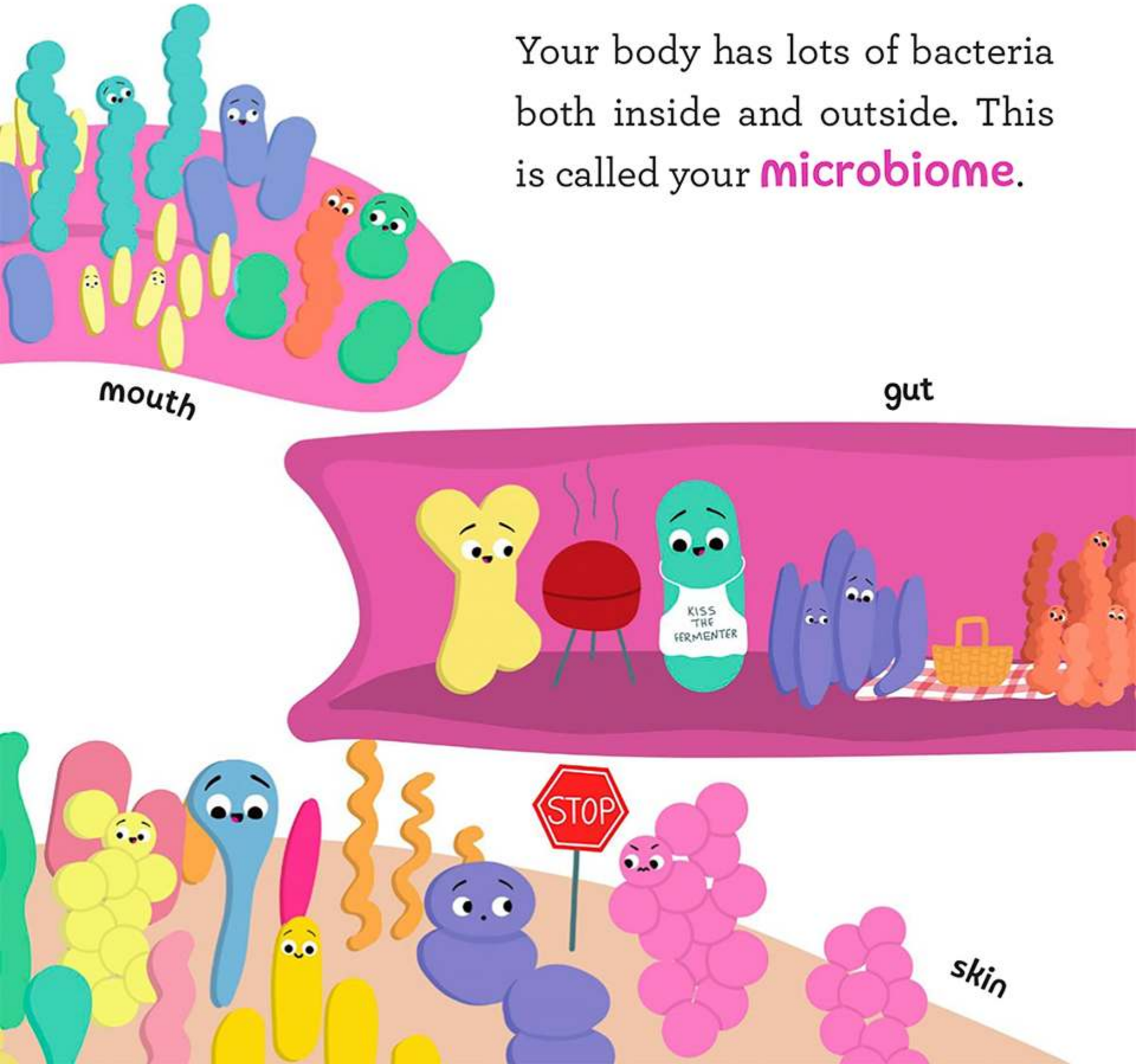
Cara Florance
Jon Florance


These are bacteria.
Hi!
Hello!
Rrrr!

Bacteria are very **small** living things.

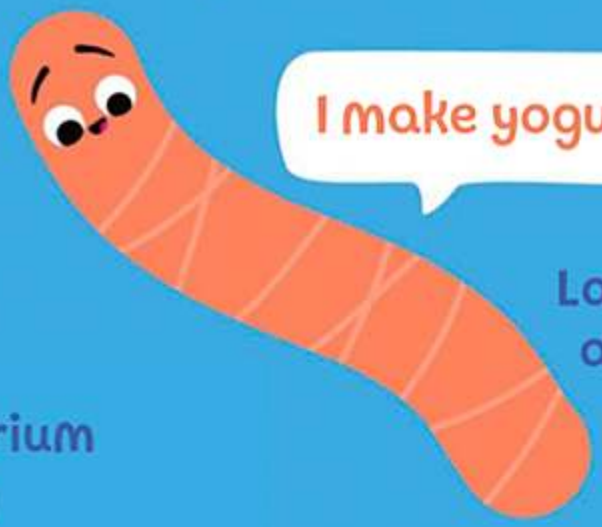


Your body has lots of bacteria both inside and outside. This is called your **microbiome**.



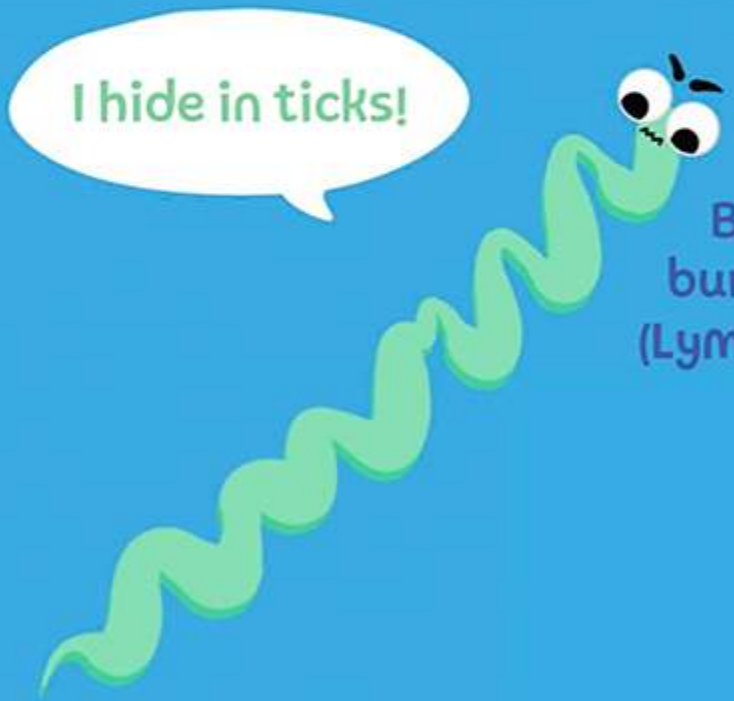
Some bacteria are **good**...

Bifidobacterium bifidum

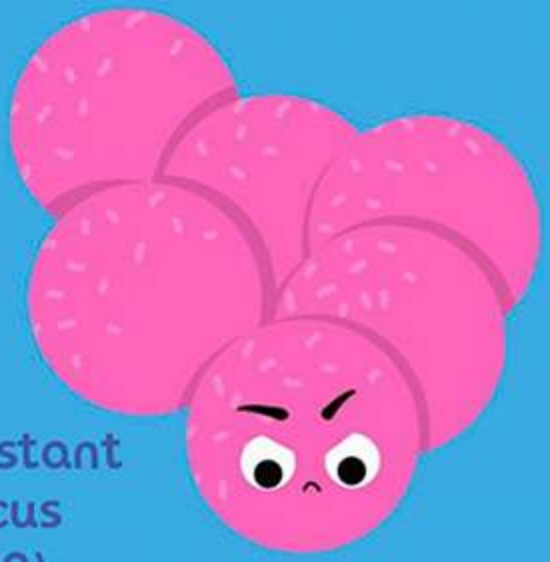


Lactobacillus acidophilus

...and some bacteria are **bad**.

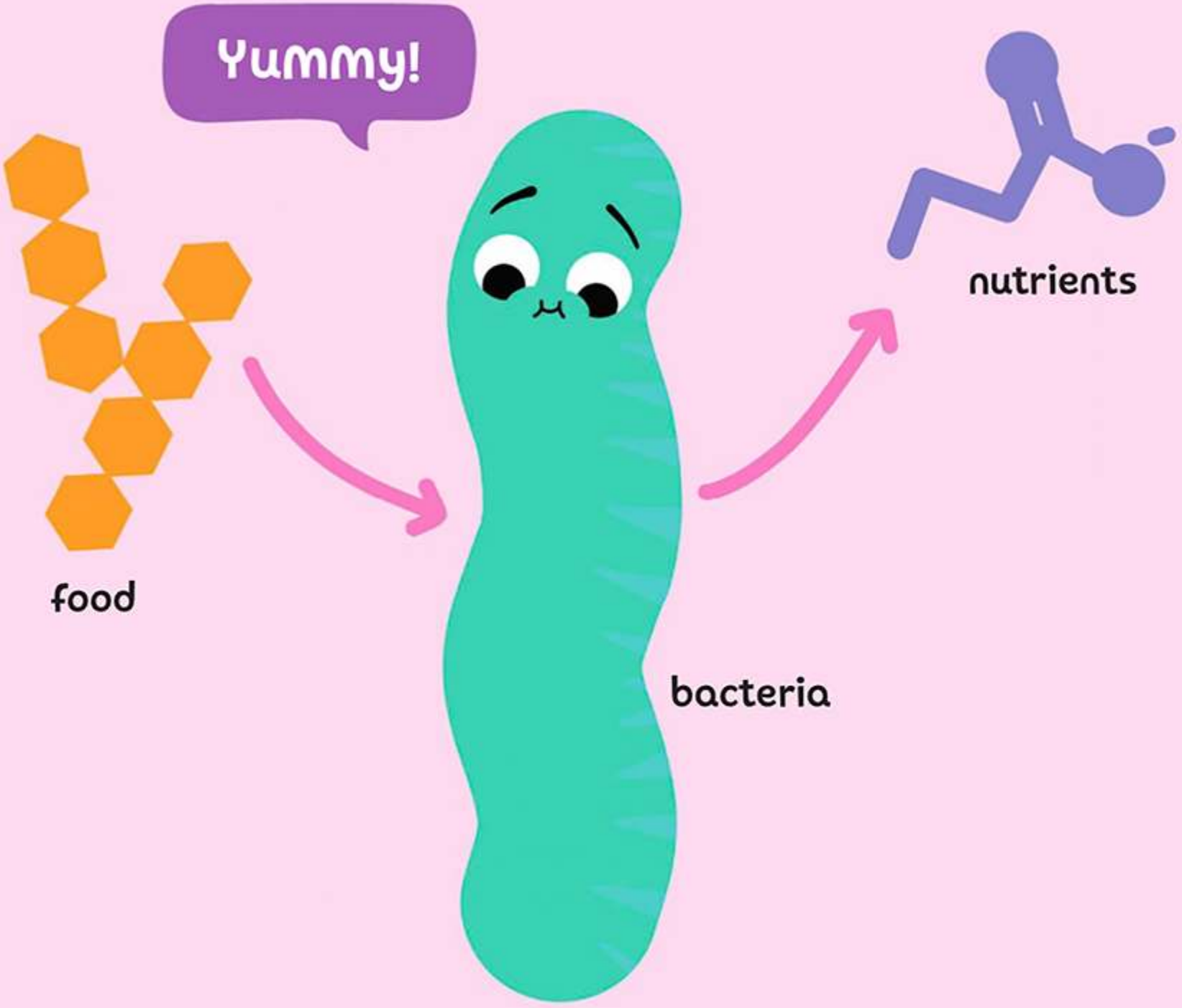


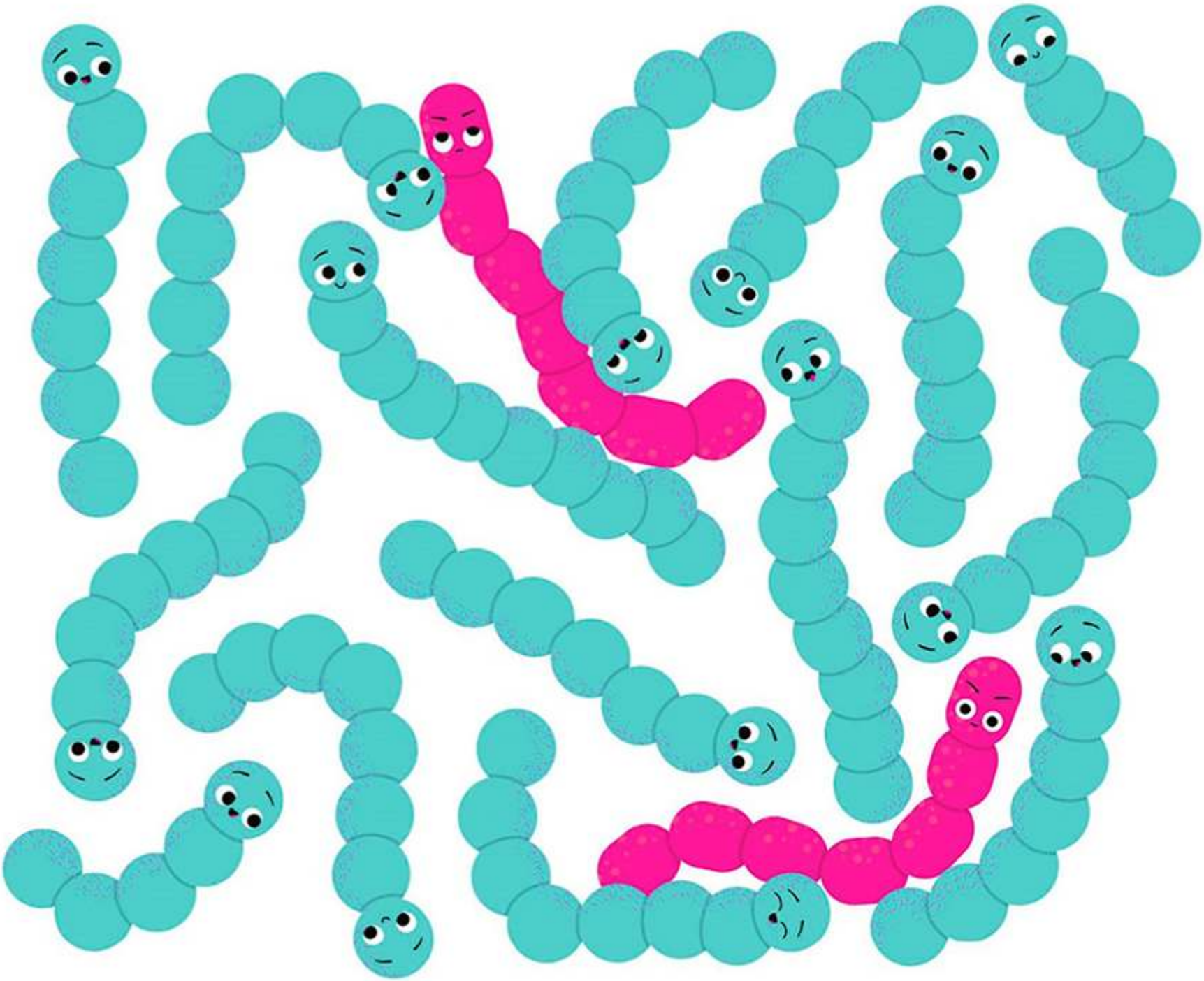
Borrelia burgdorferi (Lyme disease)



Methicillin-resistant Staphylococcus aureus (MRSA)

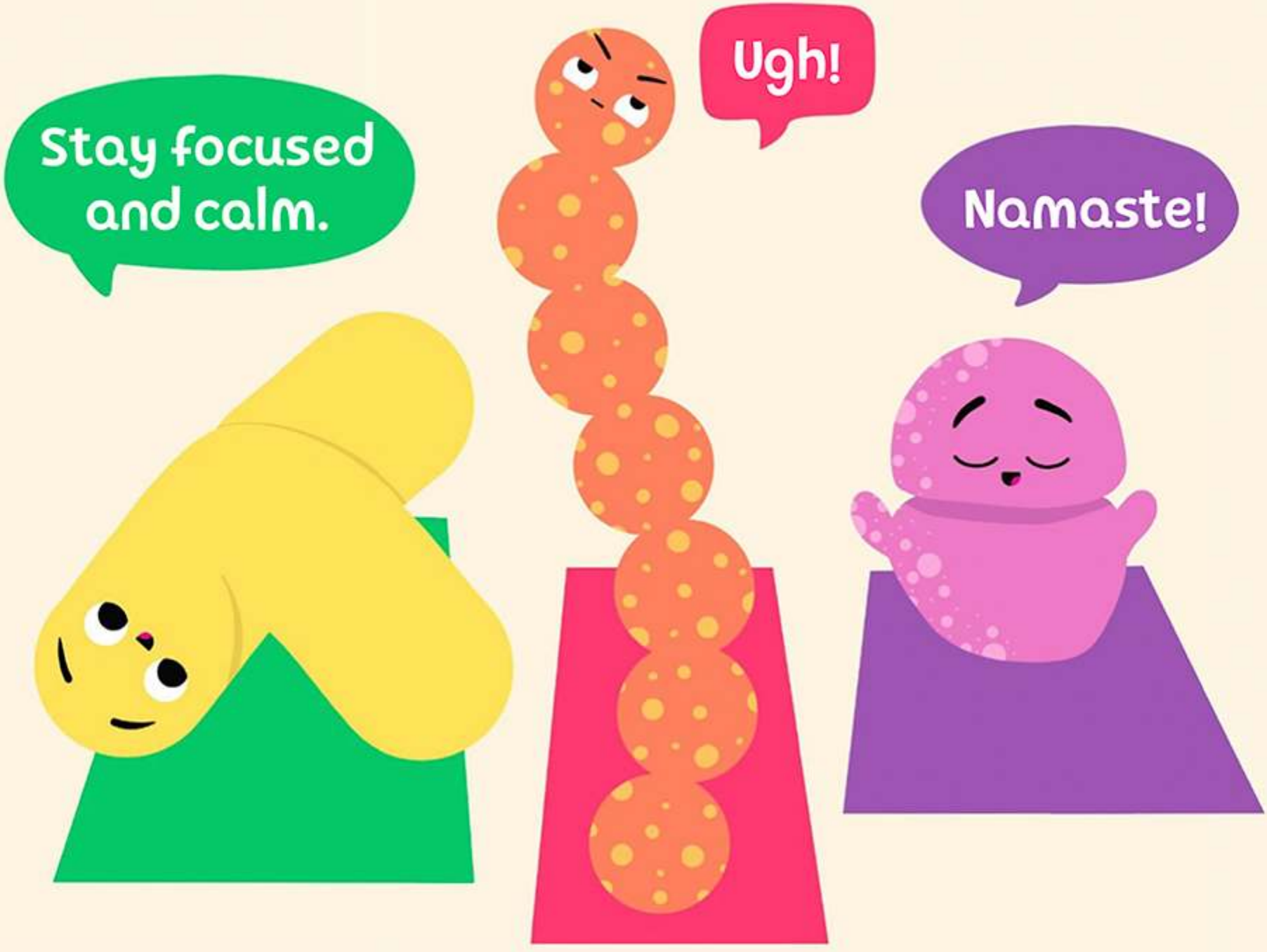
The good bacteria in your body help digest your food and make some important **nutrients**.



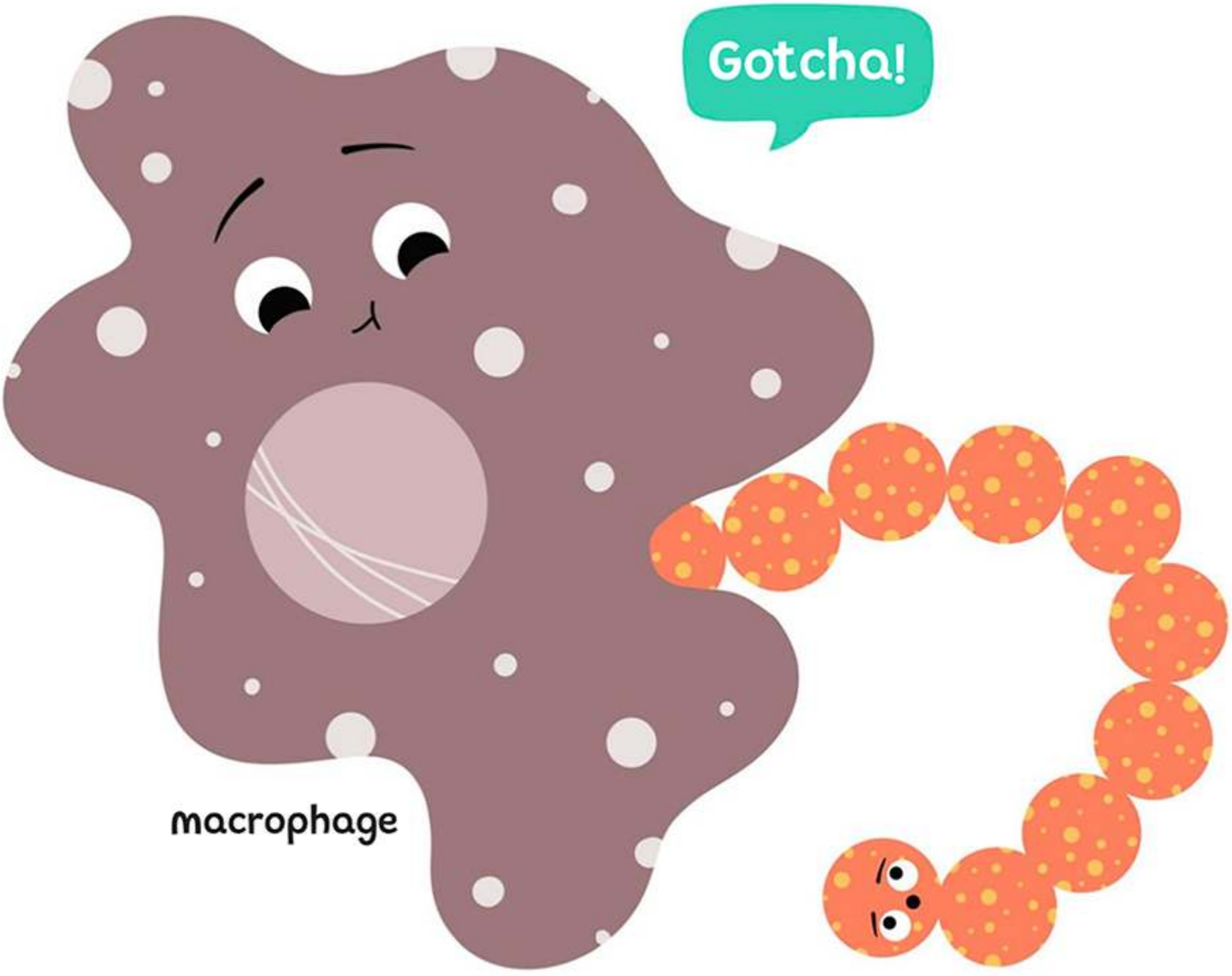


They also help crowd out the **bad** bacteria.

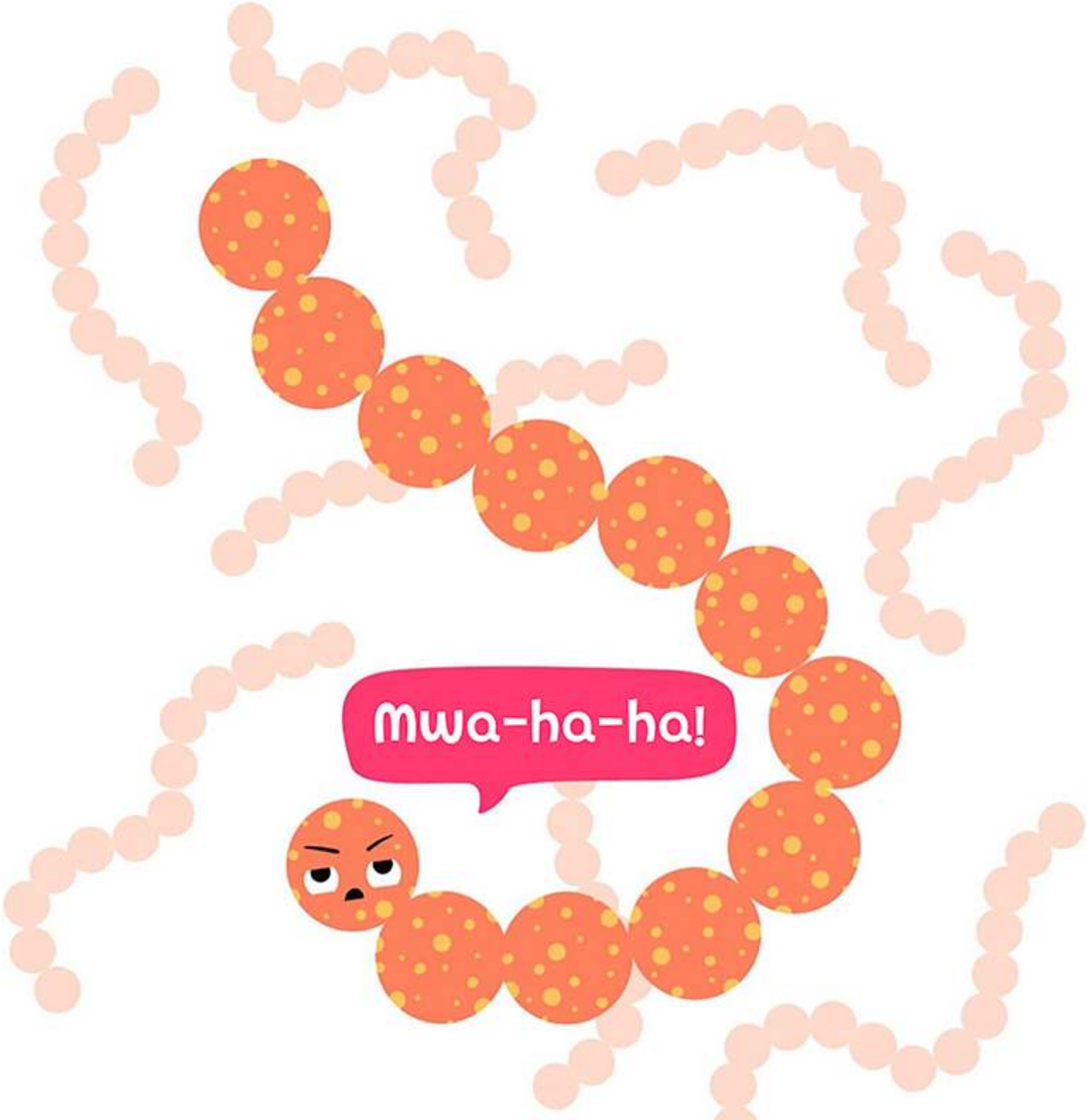
Your microbiome is so important to keeping you **healthy**.

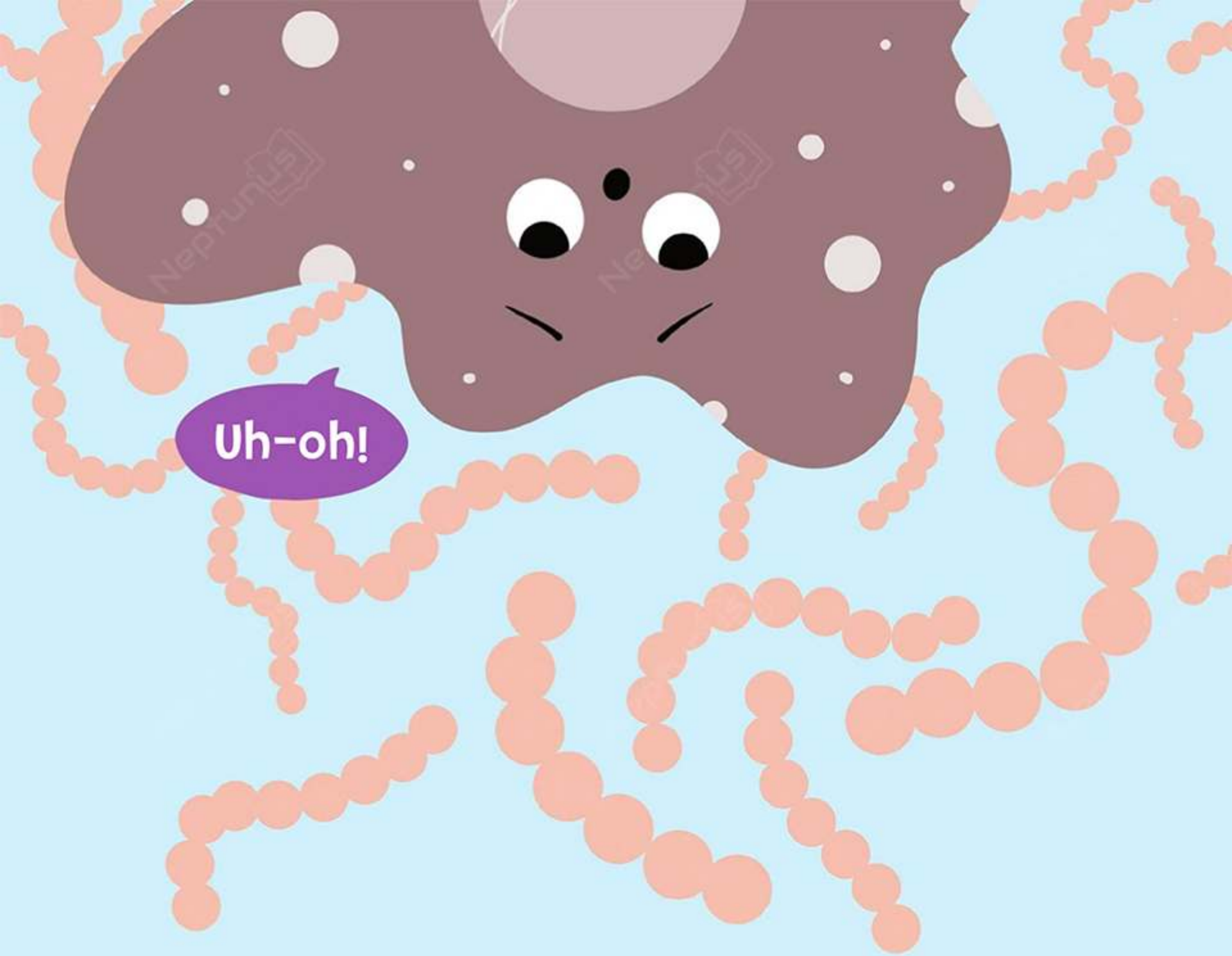


It even works with your **immune system** to help fight off bad bacteria.



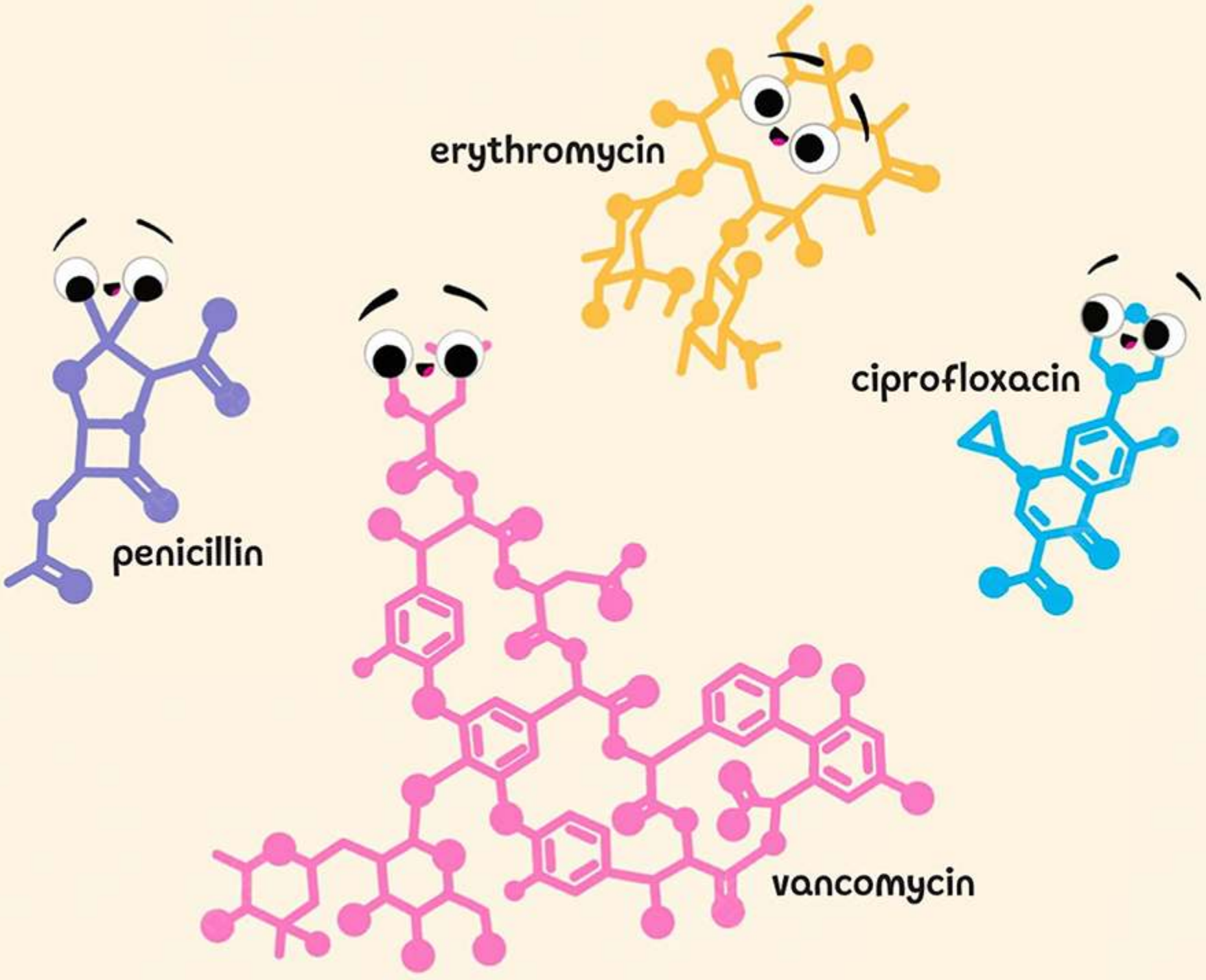
But if you have too much bad bacteria, you can get **sick**.

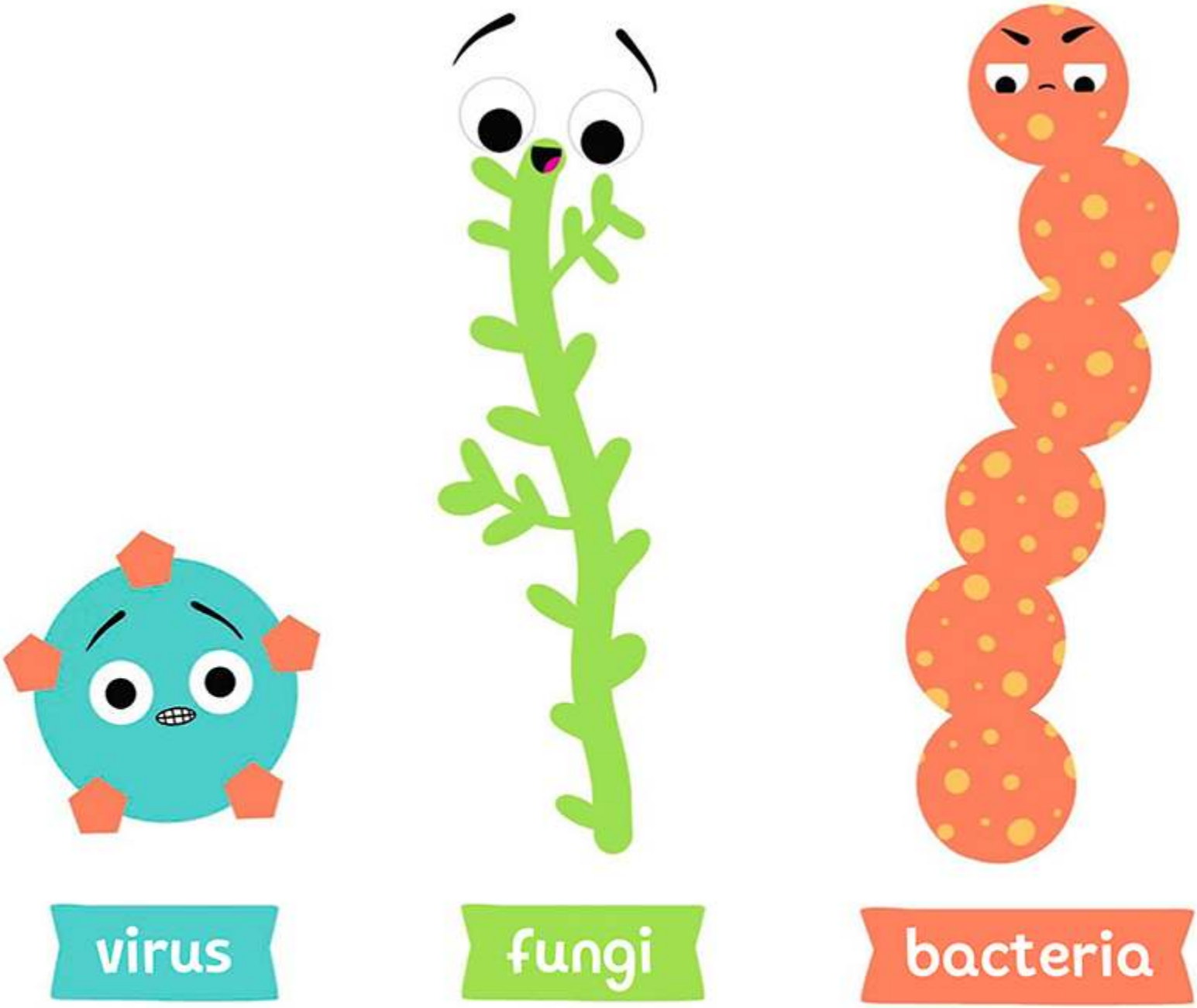




And sometimes, your immune system needs even more **help**.

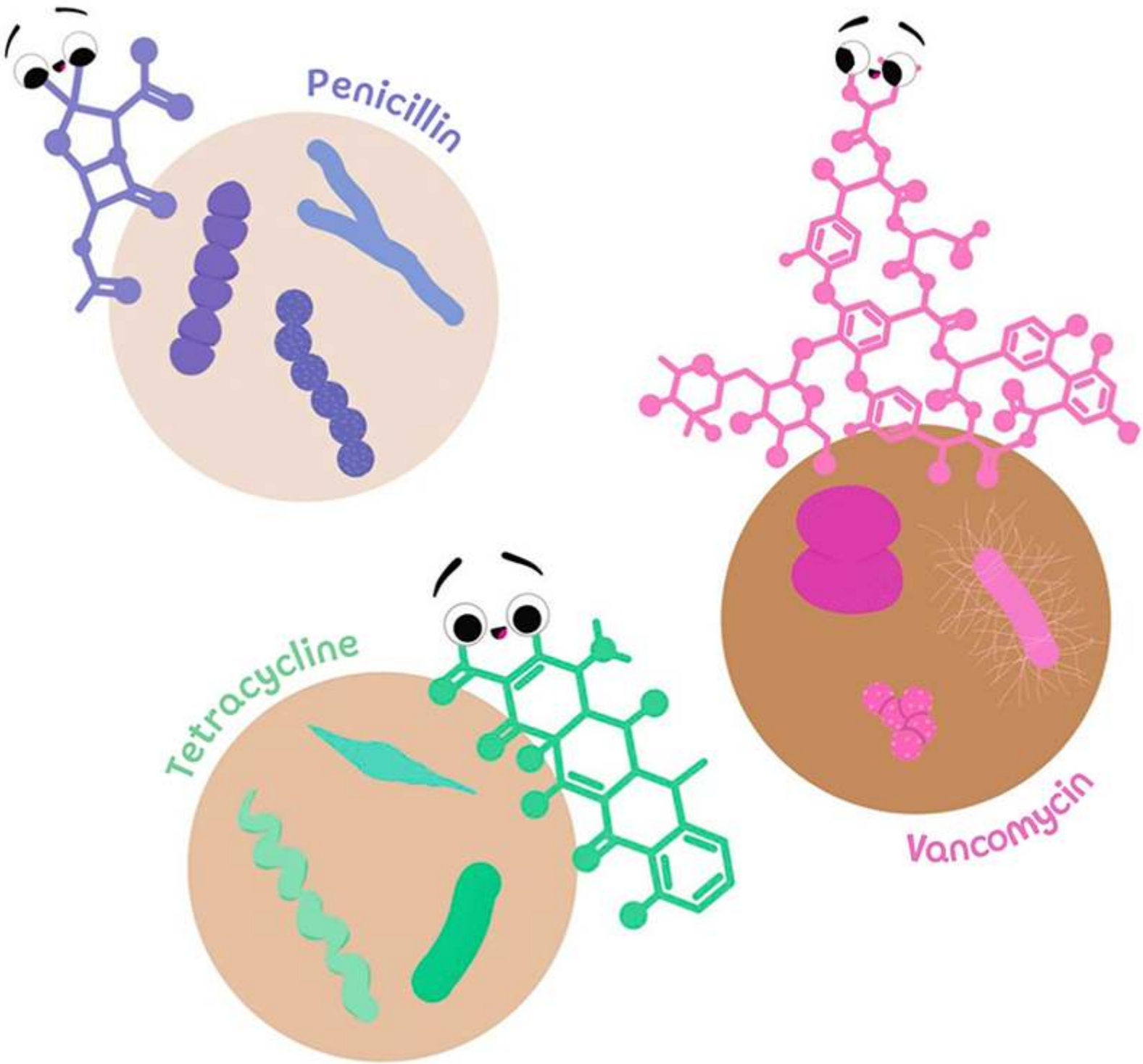
Luckily, we have a family of medicine called **antibiotics** that can get rid of bacteria.





Antibiotics only work on **bacteria**, not viruses or fungi, so they won't help you get over a cold (which is a virus).

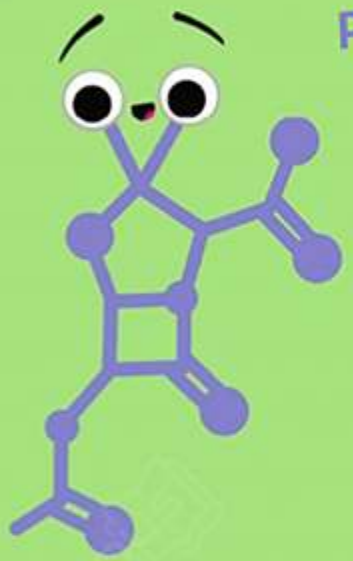
There are many different antibiotics for the many different bacteria in the world.



Antibiotics **stop** bacteria from doing important jobs that allow them to live in your body.

Erythromycin

I stop bacteria from making worker molecules.

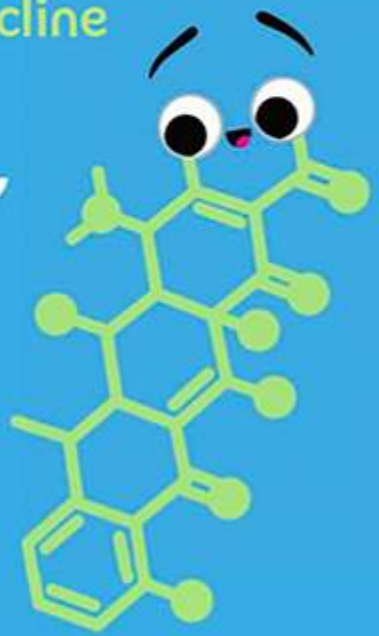


Penicillin

I stop bacteria from building walls.

Doxycycline

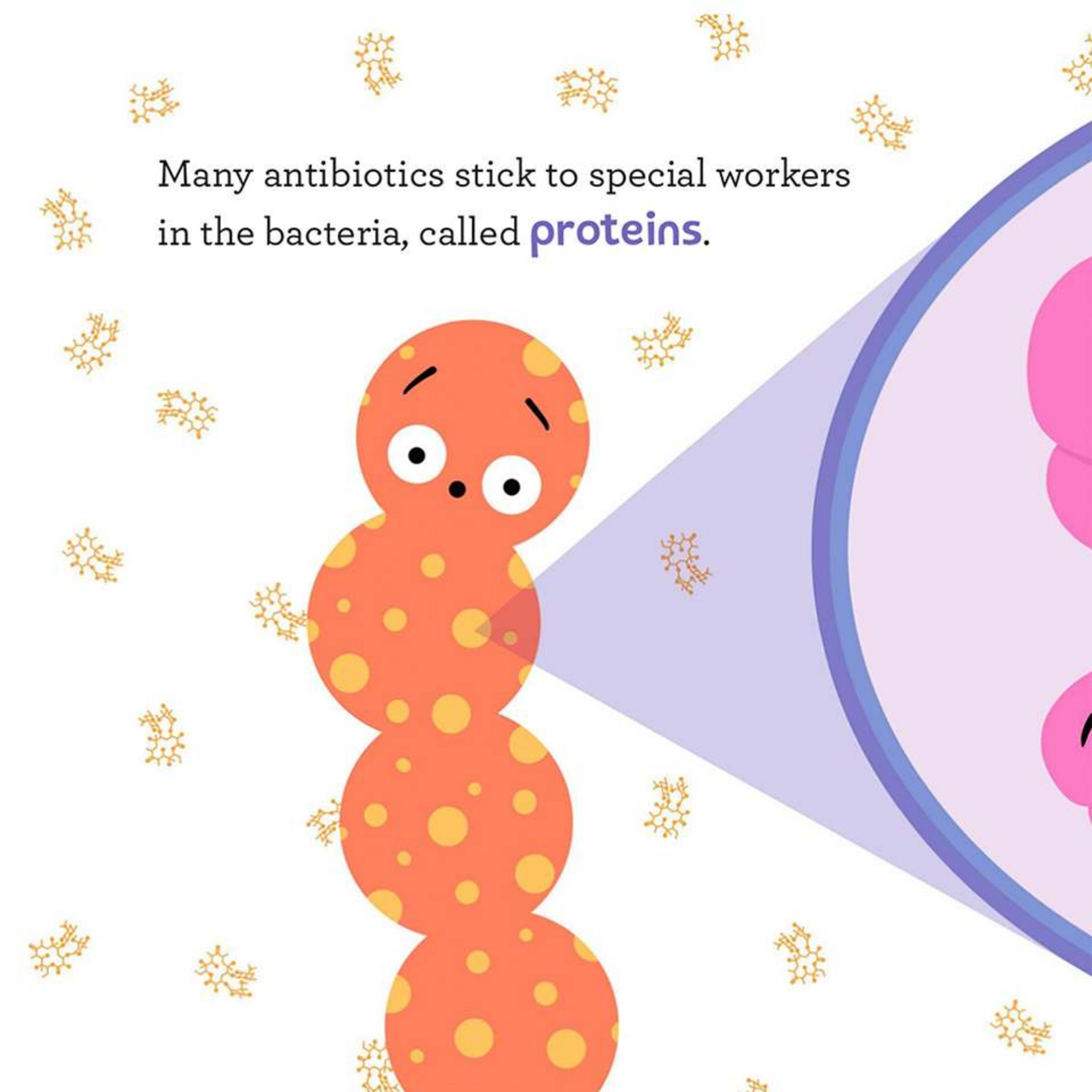
I also stop bacteria from making worker molecules, but in a different way.

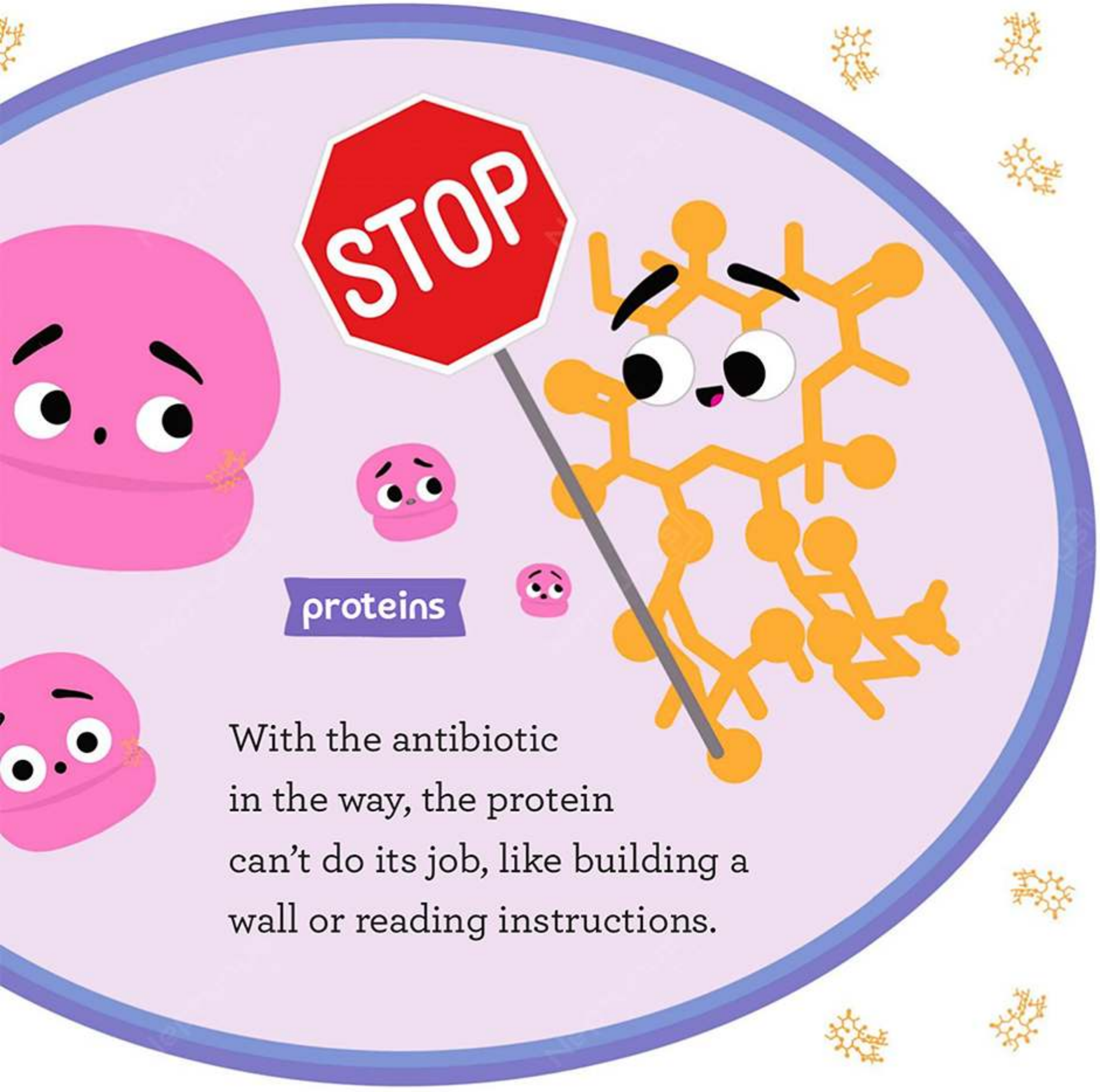


Rifampin

I stop bacteria from sending instructions.

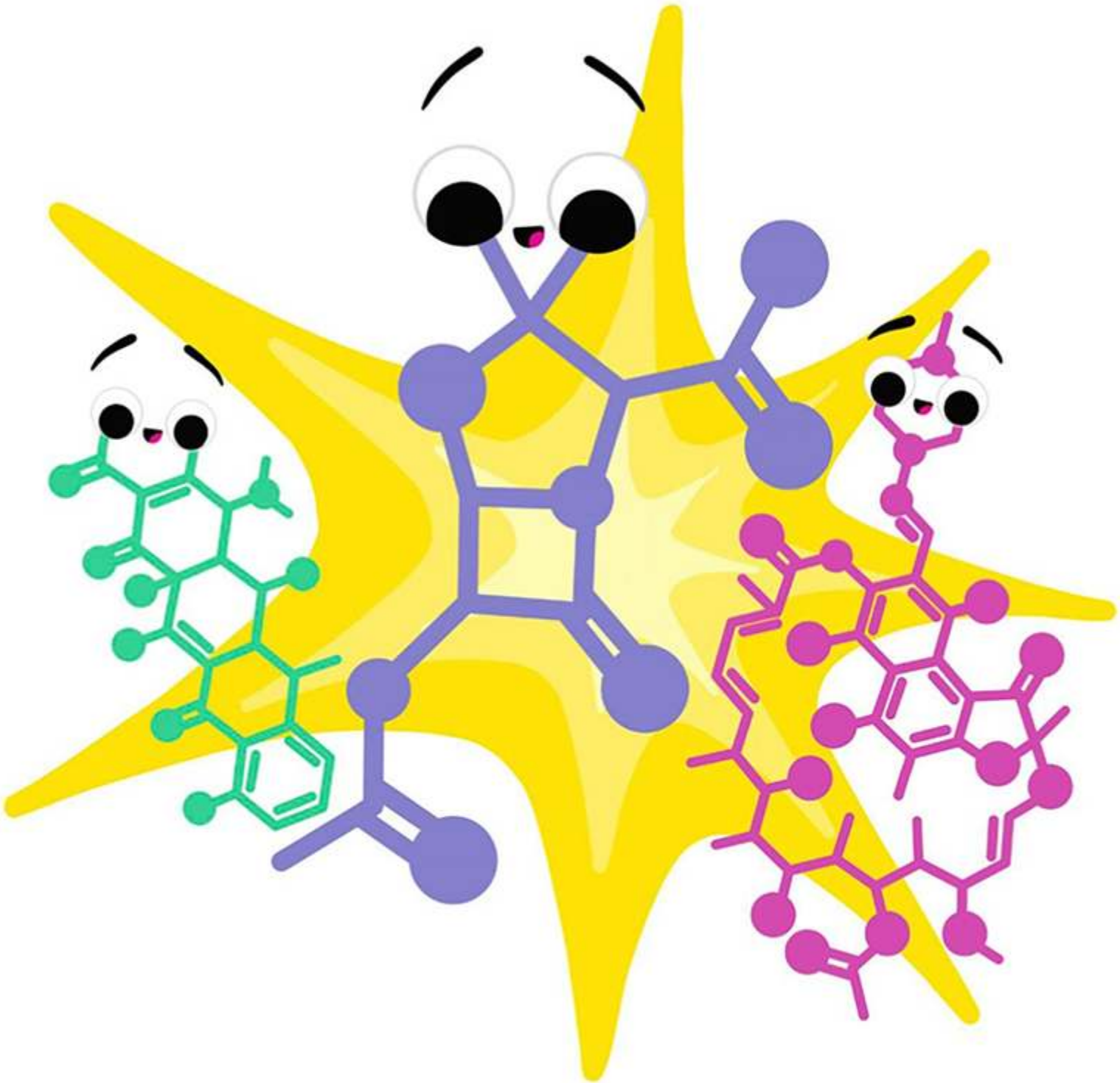
Many antibiotics stick to special workers in the bacteria, called **proteins**.



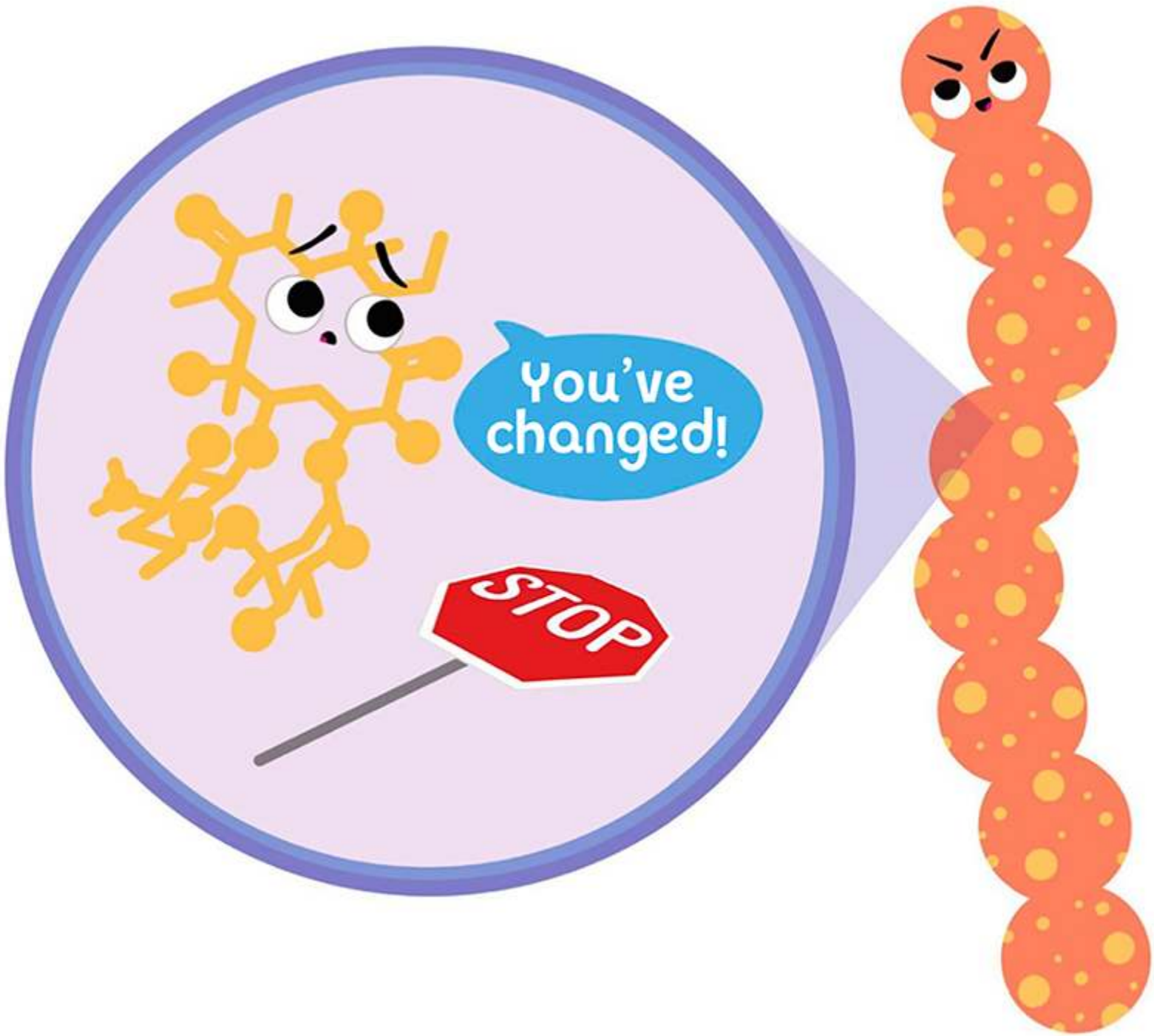


With the antibiotic
in the way, the protein
can't do its job, like building a
wall or reading instructions.

Antibiotics have saved many lives.

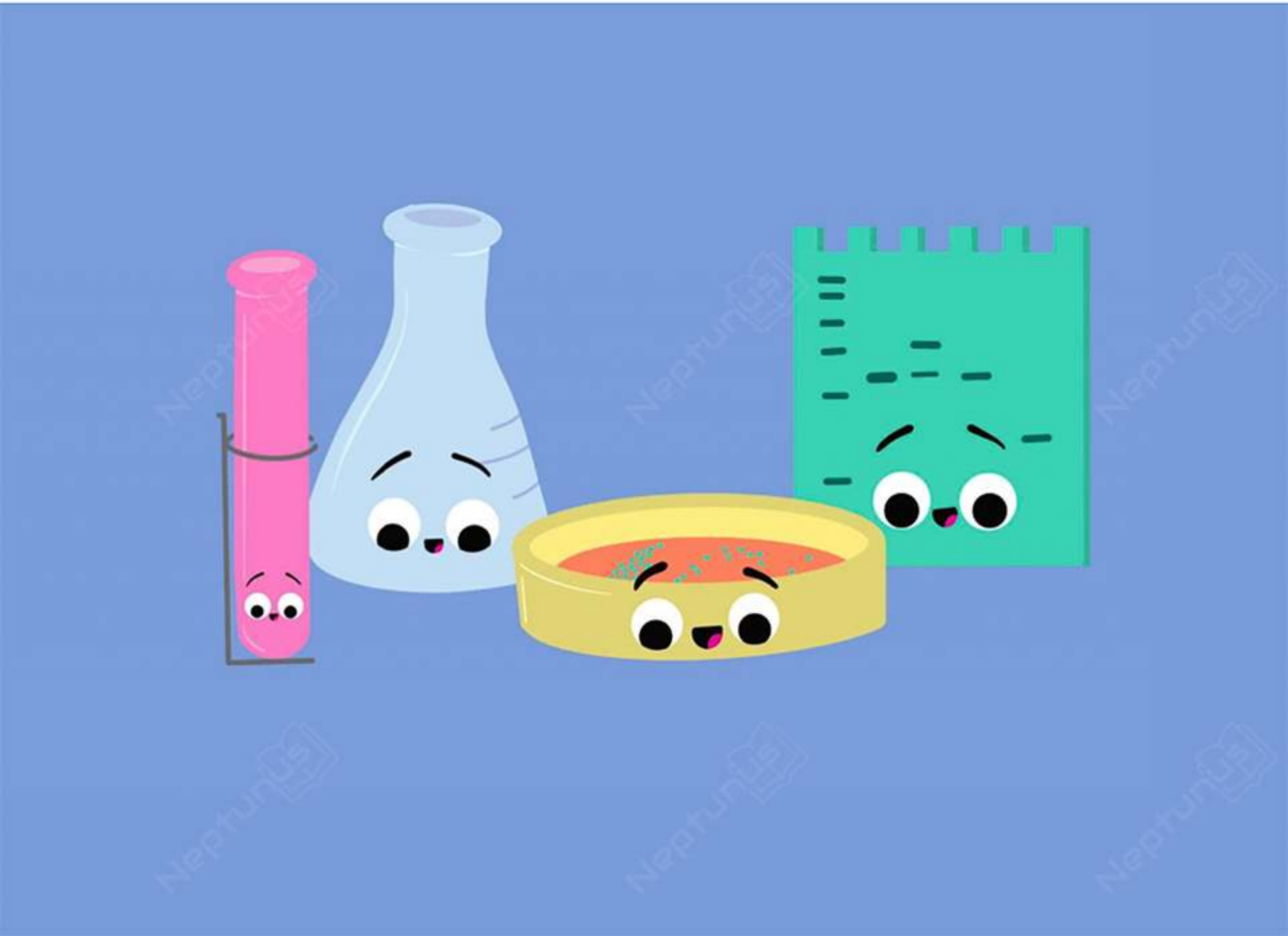


But some bacteria have figured out how to **stop** the antibiotic from working.



This is called
antibiotic resistance.

Scientists and doctors are working hard to solve this problem.



You can help too by washing your hands and doing your best to stay **healthy**.

You and your microbiome are a great **team**!

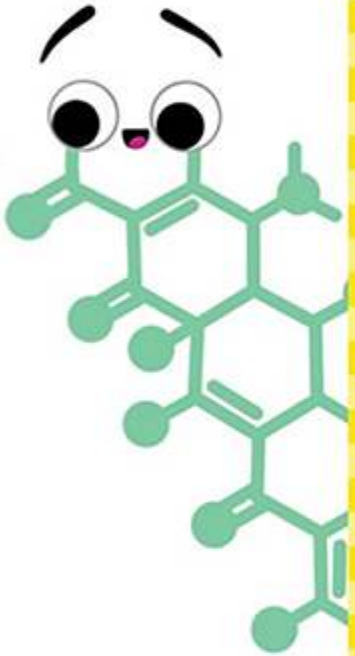
We are learning more and more about bacteria every day!

Maybe one day you can **help** even more by becoming a doctor or scientist!

Bacteria and antibiotics help keep us healthy. Let's find out how!

Good bacteria help your body do all kinds of important things, but sometimes too much bad bacteria can sneak in and make you sick.

That's when antibiotics can save the day!



Cara Florance, PhD, is a biochemist and mother with experience in astrobiology, cotton candy spinning, and radiation decontamination. She writes books to make science fun and approachable to families everywhere.

Jon Florance, MD, is a father and a physician. After years in the infantry and special forces, he transitioned to a career in medicine. He enjoys spending his free time with his family exploring the great outdoors.

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